UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/657,215	09/07/2000	Robert C. Beasley	END9-2000-0104US1	1334

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EXAMINER
THOMPSON, MARC D

ART UNIT	PAPER NUMBER
2144	

DATE MAILED: 11/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>28 July 2004</u> .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-20</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-20</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>25 June 2002</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All b) ☐ Some * c) ☐ None of:

         1. ☐ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) ☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 6/9/2004 has been entered.

2.   Claims 1-20 remain pending.

Priority

3.   No claim for priority has been made in this application.

4.   The effective filing date for the subject matter defined in the pending claims in this

application is 9/7/2000.

Drawings

5.   The Examiner contends that the drawings submitted on 6/25/2002 are acceptable for

examination proceedings.

Specification

6.   The amendments to the specification submitted on 1/23/2004 and 6/9/2004 have been

entered into record. No issue of new matter is deemed appropriate at this time.

7.   The amendment(s) to the specification also obviate any and all rejections based on

improper incorporation by reference using URL addressing like that found in the originally filed

specification at Page 20, Last Paragraph.

8.   It is noted that Applicant supplies (and currently argues) that the "URLs" found in the

specification at Page 16, Last Paragraph, are merely examples and are not used to incorporate

material of any type. It is also noted that this citation is not entirely accurate; Uniform Resource

Locators (URLs) are a special form of Universal Resource Identifiers (URIs) comprising a

minimum of two required components, a "scheme" and a "scheme specific part". These

concepts were fully disclosed in the prior art, inter alia, in Request for Comments (RFC) 1738,

by Burners-Lee et al., December 1994, included simply for clarity. In short, a URL comprises

both a recited protocol for the transfer of information, and a network resolvable address (logical

or otherwise) which points to the resource being referred to. Examiner will presume Applicant

intends to construe URL usage to a generalized logical address which points to a given resource

on the network which is independent from the protocol used to enact the transfer of the

information of the resource, that is, a "logical network address".

Claim Rejections - 35 USC § 101

9.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

10.   Claim 16 is rejected under 35 U.S.C. 101 because the claimed invention is directed to

non-statutory subject matter, lacking patentable utility.

11.   Claim 16 recites "a computer program product or computer program element for..."

        1.   First, this is a highly unorthodox preamble for a claim, since minimally, it is

unclear which of the two recitations (i.e., an atomic program or a modular element segment) is

being claimed, potentially raising issues under 35 USC 112, second paragraph.

        2.   Second, there is no requirement for a computer to read, interpret, or otherwise

interact with the claimed program (segment). Statutory subject matter in the computing arts

require interaction of programmatic instructions and associated computing equipment. See, inter

alia, MPEP § 2106.

3.   Acceptable forms of this type of claimed subject matter may include defining the

relationship of the computer and programmatic functionality in the preamble of the claim.

For example, "A computer readable medium, having stored thereon computer instructions, which

when read by a computer cause the computer to perform the steps of..." constitutes a proper

construction of the relationship required between program and machine to provide patentability.

Claim Rejections - 35 USC § 112

12.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13.   Claims 1-20 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention.

14.   Claim 1 recites "running first mirror image system and application code..." and "running

second mirror image system and application code..." in Lines 4-7 of the amended claims. First,

these limitations are constructed using idiomatic English, making clear and unambiguous

understanding of the limitations difficult. Second, it is unclear what functionality these

limitations are attempting to describe, and whether these recited elements actually have any

bearing on the invention as claimed, since no specific functionality is recited, the "mirror

systems" are never defined, and the "application code" remains so arbitrary that simply

responding to a given request constitutes application code. Also, since no functionality or result

of these "application code (segments)" is never defined, and no interaction between any two

claim elements is provided, it is unclear whether these application(s) are identical (i.e., mirrored),

or distinct. That is, it is unclear whether the first and second "application codes" are identical or

distinct. If these functional elements are different in any way, this may further lead to a clear

ambiguous rendering of future referencing, causing antecedent basis problems. Also, it is

unclear whether the "application data requests" (Line 24) even minimally relate to either (or

both) of these "applications". Lastly, the distinct recitation of the "clusters" (i.e., having no

recited interaction) lacks sufficient structure to determine what is actually being claimed.

15.   Claim 1 recites "a second network dispatcher responsive said first clustered servers

for..." in Line 17 of the claim. The portion including "responsive said first" seems to be missing

some form of preposition (i.e., "to") allowing proper construct and interpretation of this

limitation.

16.   All the submitted claims recite the limitation "...periodically replicating with each

other...", inter alia, in Claim 1, Lines 8-9. The idiomatic English usage in these cited portions

significantly confuse the intent and actual coverage of the claimed invention. It is unclear

whether these limitations relate to synchronizing applications and data sets (as inferred in the

specification) and/or relate to actual replication, invocation, and/or migration of server instances.

17.   Significant modification of claim 1 is required for proper claim construction and basic

understanding of the intended coverage of the claimed invention. All dependent claims inherit

the deficiencies of this base claim.

18.   Claims 12 and 15 recite "clusters of virtual servers". It is unclear what this is attempting

to describe, and what the meaning or usage of the term "virtual" is being applied to. It is unclear

whether the clusters are logically defined (virtual server sets), or what would constitute a virtual

server. The term "server" itself has at least two main, distinct meanings, including a software

process which responds to a request, and the hardware where server applications execute.

Clarification is required to result in order to "particularly point out and distinctly claim the

subject matter" being claimed. All dependent claims inherit the deficiencies of these base

claims.

19.   Claim 16 recites "a computer program product or computer program element for..." The

use of "or" in the preamble renders this claim indefinite due to the inability to determine which

of the two recited elements (i.e., program product or program element) are being claimed.

20.   Claim 16 recites "executing first same code" in Line 7-8 of the claim. It is unclear what

this is attempting to describe, and whether or not proper antecedent basis exists for proper

recitation of this limitation.

Claim Rejections - 35 USC § 103

21.   The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

22.   This application currently names joint inventors. In considering patentability of the
claims under 35 U.S.C. §103(a), the examiner presumes that the subject matter of the various
claims was commonly owned at the time any inventions covered therein were made absent any
evidence to the contrary. Applicant is advised of the obligation under 37 CFR §1.56 to point out
the inventor and invention dates of each claim that was not commonly owned at the time a later
invention was made in order for the examiner to consider the applicability of 35 U.S.C. §103(c)
and potential 35 U.S.C. §102(f) or (g) prior art under 35 U.S.C. §103(a).

23.   Claims 1-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yang et al.

(U.S. Patent Number 6,466,949), hereinafter referred to as Yang, in view of Bruck et al. (U.S.

Patent Number 6,801,949), hereinafter referred to as Bruck.

24.   Yang disclosed a plurality of server clusters. See, inter alia, Figure 2, and Column 3,

Lines 60-67. The provision for automatic or periodic mirroring of server application within a

particular server was notoriously well known in the art at the time of invention, and was a matter

of routine for cluster management and administration. See, inter alia, Column 1, Lines 32-38,

and Column 1, Lines 44-46. Further, synchronization of the server instances was also a part of

this well known functionality. See, inter alia, Column 1, Lines 39-50. The presence of "back

end" servers was inherent, since these servers were the functional elements of the cluster. See,

inter alia, Column 1, Lines 46-50. In short, Yang supplies a basic understanding of a clustering

environment, including the management of mirror servers, and the propagation of state change

information critical to the server cluster and individual server application(s). See, inter alia,

Column 2, Lines 39-50. the provision for document repositories as claimed was met by the

teachings of Yang, since web pages and documents were broadly considered documents. That is,

a web server serves documents. Thus, the provision for the disclosed servers to include

document repositories, relation database functionality, or any other generalized server

functionality, for example, printing or information storage, was well within the skill set of one

with ordinary skill in the art, and will not be considered to constitute a patentable difference from

the prior art.

25.   While Yang disclosed the invention substantially as claimed, Yang did not specifically

disclose the of use of a graphical user interface to manage or otherwise interact with, a cluster of

servers. While Yang does suggest the implementation of server clusters and mirror servers (inter alia, Column 1, Lines 32-38), Yang remains silent as to how information and requests were routed to various ones of these servers. This would have motivated one of ordinary skill in the art at the time of invention to search the related arts to ascertain teachings which directly related to the distribution of request(s), etc., to various cluster devices, in addition to search for teachings which provided a suitable framework for actual interaction with these servers or services.

26.   In the same art of network server clustering, Bruck disclosed advanced load balancing techniques for various back end server types (inter alia, Abstract, Column 2, Lines 38-65), virtual server clustering techniques (inter alia, Column 3, Lines 3-40), and GUI implementation for interaction with the system as a whole (inter alia, Column 3, Lines 60-67). The remainder of the limitations set forth do not teach above and beyond what was disclosed by the combination of Yang and Bruck and what was well established as an integral part of Lotus Notes and business practices a as whole, prior to 1995, including but not limited to, the use of "domino nsf" files, IBM domino.go servers, workflow operations, accounts payable, document repositories, email document repositories, etc.

27.   The modification of the generalized Yang system with the specific functional components as specifically disclosed by Bruck would have been obvious to one of ordinary skill in the art at the time of invention since, minimally, Bruck provided details about functionality merely alluded to by the Yang disclosure. Further, the teachings set forth by Bruck significantly enhance the minimally disclosed system of Yang by providing specific server types, virtual cluster definitions, and a command line or GUI user interface to allow interaction of both

administrators and users with the cluster system. The combination of these teachings would have provided, minimally, the tools required to realize a fully distributed server clustering system utilizing load balancing, redundant mirror synchronizing on a periodic basis, and modular programmatic assembly of a distributed application, optionally accessing distributed relational databases.

28.   Claims 1-20 are rejected.

Response to Arguments

29.   The arguments presented by Applicant in the response, received on 6/9/2004, are not considered persuasive.

30.   Applicant argues a difference between server and network services. See, Response, received 6/9/2004, inter alia, Page 17. Examiner contends no such distinction. Again, as stated above, the term "server" has multiple meanings, including minimally, a process performing a task upon request. Naturally, this is precisely what network services are. Indeed, the definition of a "cluster" involves the treatment of a set of services/servers as a single entity (service).

31.   Applicant argues the lack of the prior art of record to disclose "mirroring" and periodic replication of server information. See, Response, received 6/9/2004, minimally, Page 20. This functionality was notoriously well known at the time of invention, primarily evidenced by the discussion of such technical functionality in the prior art (i.e., prior to the references cited and applied). Automatic and periodic mirroring of information within a (web) cluster environment was widely implemented at the time of invention and does not constitute a patentable distinction to the Examiner based on the prior art as a whole.

32.   Applicant argues the presence of multiple clusters in the claims and absent in the prior art of record. First, it is noted that multiple references specifically recite the presence of multiple logical server clusters. Second, given one logical cluster, the use of two on the same network would have obvious, since minimally, there is no direct correlation or interaction between the distinct logical clusters in the claims. In short, the claims recite a skeletal form of an invention, missing substantial portions and specific recitation of interactivity, communication, and relationships between disparate components of the overall system.

33.   In addition, it is respectfully submitted that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

34.   Applicant admits the teachings of Underwood (applied prior, not currently) in teaching component based, reusable objects for use in a services and server network environment. See, Response, received 6/9/2004, Pages 17-18. Any determination of novelty based on this feature alone in the future will not be held to be persuasive.

35.   Finally, Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

36.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

37.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc D. Thompson whose telephone number is 571-272-3932. The examiner can normally be reached on Monday-Friday, 9am-4pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski, Jr. can be reached at 571-272-3925. The fax phone number for the organization where this application or proceeding is assigned remains 703-872-9306.

38.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARC D. THOMPSON
PRIMARY EXAMINER
Art Unit 2144